



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/666,982

09/19/2003

Tzvi Avnery

2251.2002-009

8622

21005

7590

03/11/2009

HAMILTON, BROOK, SMITH & REYNOLDS, P.C.

530 VIRGINIA ROAD

P.O. BOX 9133

CONCORD, MA 01742-9133

EXAMINER

MAYEKAR, KISHOR

ART UNIT

PAPER NUMBER

1795

MAIL DATE

DELIVERY MODE

03/11/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/666,982	Applicant(s) AVNERY, TZVI	
	Examiner Kishor Mayekar	Art Unit 1795	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 February 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5, 24 and 25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5, 24 and 25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 9 February 2009 has been entered.

Response to Amendment

2. Claims 1-5, 24 and 25 are pending in the application with claims 1, 3 and 4 being amended.

Claim Rejections - 35 USC § 103

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

4. Claims 1-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Reuter et al. (US 4,595,569) in view of Helfritsch et al. (US 5,695,616) and/or Patrick et al. (US

Art Unit: 1795

4,396,580), all references being cited in previous Office actions. Reuter's invention is directed to a device for desulphurizing and denitrating flue gases by electron beam irradiation to which ammonia has been added prior to the irradiation. Reuter discloses in Figs. 1 and 2 that the device comprises a rectangular duct through which the gases flow and first and second electron beam emitters each having a single exit window coupled directly onto the rectangular duct. Reuter further discloses the uniform and continuous electron beam coverage and the electron distribution in the duct being adjusted substantially rectangularly (c. 3, l. 15-27). As such, Reuter does provide the complete uniform and continuous electron beam coverage from the rectangular electron distribution and the uniform dosage distribution over the cross section of the rectangular duct. Reuter further discloses that the emitters are arranged horizontally and are placed in a gas-tight manner with their vertically arranged electron exit windows directly on the rectangular duct, and the electron beam emitters being placed in a gas-tight manner with electron exit windows directly on the rectangular duct (c. 4, l. 41-45) or that the emitters are coupled directly onto the rectangular duct (c. 3, l. 7-14). As such Reuter suggests that the emitters are mounted to the duct and sealed over openings in the duct. If it is not, Patrick teaches the limitation in an apparatus for treating gases by electron irradiation (Figs. 4 and 5). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the coupling of the emitters of Reuter such that the coupling of the emitters are directly onto the duct, as per the

Art Unit: 1795

teachings of Patrick. One of ordinary skill in the art would have been motivated to make such a modification because the selection of any of known equivalent means for coupling the emitters directly to the rectangular duct would have been within the level of ordinary skill in the art. The difference between Reuter and the above claims is the provision that the duct has a port for introducing a reaction reagent into the duct to the gases. Helfritsch teaches in a device for treating flue gases by irradiation with electron beam the limitation (Fig. 1). The subject matter as a whole would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified Reuter's teachings as shown by Helfritsch because provision of the port into the duct would result in adding the ammonia to the flue gas.

As to the subject matter of claim 5, since it is not a structure, it cannot be given any patentable weight.

5. Claims 24 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Reuter '569 as modified by Helfritsch '616 and/or Patrick '580 as applied to claims 1-5 above, and further in view of Namba et al. (US 5,244,552) and Hirai (US 5,015,442), both references cited in the last Office action. The difference between the references as applied above and the instant claims is the provision of the recited reactive bed. Namba teaches in an apparatus for gas treatment by electron beam irradiation that that ozone is formed during the treatment (col. 3, lines 49-52). Hirai teaches in a device for treating

Art Unit: 1795

air the provision of particulate catalyst to remove ozone therefrom (Fig. 1). The subject matter as a whole would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the references' teachings as shown by Namba and Hirai because this would result in removing ozone generated during the treatment. Further, it has been held that the motivation to make a specific structure is always related to the properties or uses one skilled in the art would expect the structure to have, *In re Newell* 13 USPQ 2d 1248, *Fromson v. Advance Offset Plate* 225 USPQ 26; *In re Gyurik* 201 USPQ 552.

Response to Arguments

6. Applicant's arguments filed 16 January 2009 have been fully considered but they are not persuasive because of a new ground of rejection as set forth in the paragraph above with the addressing to arguments.

Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kishor Mayekar whose telephone number is (571) 272-1339. The examiner can normally be reached on Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nam Nguyen can be reached on (571) 272-1342. The fax phone number for the

Art Unit: 1795

organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Kishor Mayekar/
Primary Examiner
Art Unit 1795